

Atty. Docket No. JP920000133US1
(590.074)

REMARKS

In the Office Action dated July 3, 2006, pending Claims 1-6, 8-12, and 14-20 were rejected and the rejection made final. An Amendment After Final was submitted and an Advisory Action issued maintaining the finality of the rejections. Applicants have filed herewith a Request for Continued Examination. Of the presently pending claims, claims 1, 4, 8-9, 14-20 are independent claims; the remaining claims are dependent claims. The Office's reconsideration and withdrawal of said rejections is hereby requested.

Rejections under 35 USC 102(b) and 103(a):

Claims 1-6 and 15-20 stand rejected under 35 USC 102(b) as being anticipated by Chelba et al. (Exploiting Syntactic Structure for Language Modeling) (hereinafter "Chelba"). Claims 8, 9, and 14 stand rejected under 35 USC 103(a) as being obvious over Chelba. Claims 10-12 stand rejected under 35 USC 103(a) as being obvious over Chelba in view of Kuhn (Speech Recognition and the Frequency of Recently Used Words)(hereinafter "Kuhn"). However, for the reasons that follow the Applicants respectfully submit the invention as presently claimed is fully distinguishable over the cited prior art references.

Applicants have taken great pains to fully disclose and explain the novelty of the present invention in view of the Chelba reference at the heart of the present rejections. Moreover, the present claims to at least one embodiment of the invention fully include

Atty. Docket No. JP920000133US1
(590.074)

novel subject matter. Before discussing the present claims Applicants would like to first summarize their understanding of Chelba.

As best understood Chelba appears to relate to an improvement over tri-gram language modeling using syntactic structures. As the Examiner surely appreciates, and as explained in both the Applicants' disclosure and Chelba, a tri-gram model uses two preceding words to predict succeeding words in a sentence. Furthermore, as a word is predicted it and its preceding word are then used to predict the next word. However, such a method is limited in that other words are not examined to increase the accuracy of the words being predicted, thus, usefully information is not used in the prediction process. Chelba improves upon the tri-gram shortcomings by using a partial analysis tree approach.

As best understood, Chelba discloses a "model for employing the head word of two immediately preceding partial analysis trees to predict a succeeding word." (Page 5, lines 13-14) Thus, "[t]he head word of the two immediately preceding partial analysis trees are employed to predict, in the named order, the following word and its speech part." (Page 5, line 17- Page 6, line 1) Once a prediction for a word is made the structure of the sentence is updated. "Therefore, the accuracy of the prediction can be improved compared with the tri-gram method, which employs two immediately preceding words to predict a following word." (Page 6, lines 5-6)

Importantly, however, Chelba fails to take into account the way in which words modify one another. Thus, Chelba appears to provide a method in which a prediction is

Atty. Docket No. JP920000133US1
(590.074)

made without accounting for the effect of word modifications. In particular circumstances the failure to account for word modification effect will reduce the accuracy of a word prediction as compared to the situation in which such modifications are considered in the prediction process. The examiner asserts that Chelba predicts a word based on the word sequence preceding the predicted word, and that different word sequences consequently predict different words. Specifically, the examiner asserts that a word sequence includes an analysis tree that expands the word history of the sequence of words used to predict the unknown word. Different word sequences would have different word histories, thus predicting different words. The examiner asserts that the histories of the word sequences would show how different word sequences modified the word to be predicted. However, it is respectfully submitted that word history utilized in an analysis tree is not equivalent or similar to accounting for word modification when predicted an unknown word in a sentence.

Chelba bases prediction on the two immediately preceding partial analysis trees that are located prior to the unknown word in the sentence. This is in stark contrast to the instant invention, in which prediction is based upon the modification relationship of the prior words in the sentence, such that the two immediately preceding words or trees may not necessarily be the words used for prediction. Rather, a word or word sequence that has a modification relationship with the unknown word is utilized to predict the unknown word. Thus, even though Chelba uses the two immediately preceding partial analysis trees and takes into account word histories while utilizing these trees, that is starkly different from utilizing a word or a sequence of words based upon the modification

Atty. Docket No. JP920000133US1
(590.074)

relationship to the unknown word. Specifically, Chelba predicts a word based upon the two preceding words and utilizes word history to predict the unknown word. A word history is not the same as a modification relationship. Further, the instant invention bases prediction upon words selected because they have a modification relationship with the unknown word. Selecting words that do not have a modification relationship with the unknown word is in direct contrast to the instant invention.

Of the independent claims currently under consideration, claims 1, 8, 15, 17, and 19 recite, *inter alia*, the selection of “a word and/or a word sequence that has a modification relationship with said target word to be predicted...”. Similarly, independent claims 4, 14, 16, 18, and 20 recite, *inter alia*, specifying “a modification relationship between a word to be predicted and another word and/or word sequence...”. Thus, clearly, all of the present independent claims include the novel “modification relationship” subject matter of the present invention, which, as discussed above, is simply not taught by Chelba.

Applicants therefore respectfully submit that the applied art does not anticipate the present invention because, at the very least, “[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under construction.” W.L. Gore & Associates, Inc. v. Garlock, 721 F.2d 1540, 1554 (Fed. Cir. 1983); see also In re Marshall, 198 U.S.P.Q. 344, 346 (C.C.P.A. 1978). In light of the above, it is now appropriate to withdraw the applied anticipation rejections to claims 1, 15, 17, and 19.

Atty. Docket No. JP920000133US1
(590.074)

Similarly, the failure of Chelba to teach or suggest all of the presently claimed elements of the claims indicates the withdrawal of the remaining obviousness rejections is now appropriate as well. As the Examiner is aware, to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 there must be: (1) a suggestion or motivation to modify a reference or combine references; (2) a reasonable expectation of success in making the modification or combination; and (3) a teaching or suggestion to one skilled in the art of all the claimed limitations of the invention to which the art is applied. See In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Since Chelba fails to teach or suggest to one skilled in the art "a modification relationship" as used in the present invention, claims 8, 9, and 14, which are based solely on Chelba should be withdrawn.

The rejection of claims 10-12 should likewise be withdrawn because the Kuhn reference standing alone or in combination with Chelba fails to teach or suggest to one skilled in the art the present modification relationship, i.e., Kuhn fails to overcome the deficiencies of Chelba set forth above. Whether Kuhn discloses that for which it has been cited is immaterial at this juncture due to the failure of the references as described above; however, Applicants would like to note their traversal of Kuhn to the extent the teachings of the same teach or suggest the presently claimed invention. Thus should the need so arise the Applicants reserve the right to argue the same. Applicants would like to finally point out that there is no reasonable expectation of success in making the above modification or combination in order to meet the presently claimed subject matter, assuming, *arguendo*, the same were even possible, i.e., actually combining the inventions would not produce the claimed invention.

Atty. Docket No. JP920000133US1
(590.074)

For the aforementioned reasons, the Applicants respectfully submit, at a minimum, the prerequisite teaching/suggestion and expectation of successes required to maintain an obviousness rejection is lacking, indicating the claimed invention is not obvious under 35 U.S.C. § 103(a).

Obvious-Type Double Patenting

Claims 1-6 and 15-20 stand provisionally rejected under the doctrine of obviousness-type double patenting over claims 1-6 of Application No. 10/226,564. The Examiner opines that since claims 1-7 and 15-21 of the present application recite "a word prediction method, using a partial analysis tree structure of the sentence structure around the target word to predict the target word, and claims 1-6 of copending Application No. 10/226,564 recite a word prediction method using the word history of the target word to predict the target word, where the word history contains analysis trees representing each possible prediction" a provisional obviousness-type double patenting rejection is to be applied. The Applicants again respectfully traverse said rejections and ask that they be withdrawn.

As stated above, selecting words to be used as predictors and then utilizing word histories based upon those words is in stark contrast to selecting words based upon an existing modification relationship. Thus, as best understood, a review of the claims cited in support of the obviousness-type double patenting rejections in the copending application fails to reveal the recitation of, *inter alia*, the selection of "a word and/or a word sequence that has a modification relationship with said target word to be

Atty. Docket No. JP920000133US1
(590.074)

predicted..." or the specifying of "a modification relationship between a word to be predicted and another word and/or word sequence...". Because said elements are completely novel, as fully explained above, the claims of the copending application do not appear to teach or suggest all of the presently claimed elements of the invention now being examined. The obviousness-type double patenting rejections can be properly withdrawn at this time, since they fail to satisfy the necessary requirements to establish obviousness; the same is, therefore, respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that independent claims 1, 4, 8-9, and 14-20 fully distinguish over the applied art and are thus are in condition for allowance. By virtue of dependence from what are believed to be allowable independent claims, it is respectfully submitted that claims 2-3, 5-6, and 10-12 are also presently allowable.

/

/

/

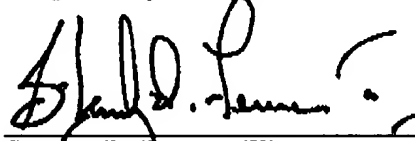
/

/

Atty. Docket No. JP920000133US1
(590.074)

In summary, it is respectfully submitted that the instant application, including claims 1-6, 8-12, and 14-20, is presently in condition for allowance. Notice to the effect is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone prior to the issuance of an Office Action if there are any further issues in this application.

Respectfully submitted,



Stanley D. Ference III
Registration No. 33,879

Customer No. 35195
FERENCE & ASSOCIATES
409 Broad Street
Pittsburgh, Pennsylvania 15143
(412) 741-8400
(412) 741-9292 - Facsimile

Attorneys for Applicants